May 9, 2017

BY ELECTRONIC FILING

Marlene H. Dortch
Secretary
Federal Communications Commission
445 12th Street, S.W.
Washington, D.C. 20554

Re: *Use of Spectrum Bands Above 24 GHz for Mobile Radio Services, et. al.*, GN Docket No. 14-177, IB Docket No. 15-256, WT Docket No. 10-112, and IB Docket No. 97-95

Dear Ms. Dortch:

EchoStar Satellite Operating Corporation, Hughes Network Systems, LLC, Inmarsat, Inc., WorldVu Satellites Ltd. d/b/a OneWeb, SES Americom, Inc., O3b Limited, Intelsat Corporation, and The Boeing Company (collectively, the "Satellite Broadband Companies") hereby respond to the recent *ex parte* letter submitted in the above referenced proceedings by the Competitive Carriers Association ("CCA").[1] In that letter, CCA opposed certain proposals made by the Satellite Broadband Companies for reconsideration[2] of the restrictions on satellite earth station deployment in the 27.5-28.35 GHz ("28 GHz") band adopted in the *Spectrum Frontiers Order*.[3] As discussed below, CCA's opposition reflects a fundamental misunderstanding as to the nature of satellite earth station deployment in this band. Moreover, it fails to recognize both the degree to which satellite operators are already intensively using the 28 GHz band to provide broadband services to customers and the true potential for satellite and terrestrial wireless systems to coexist while providing robust services to Americans in rural and other underserved areas.

At the outset, it is worth noting that CCA seems to be under the misimpression that the Satellite Broadband Companies propose to provide *mobile* services via satellite in the 28 GHz band.[4] To the contrary, the rules adopted for this spectrum in the *Spectrum Frontiers Order* are

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1 Letter from Rebecca Murphy Thompson to Marlene H. Dortch, GN Docket No. 14-177, *et al.* (May 2, 2017) ("CCA Letter").

2 *See generally* Joint Reply to Oppositions, GN Docket No. 14-177, *et al.* (Feb. 24, 2017).

3 *See Use of Spectrum Bands Above 24 GHz For Mobile Radio Services, et al.*, 31 FCC Rcd. 8014 (2016) ("*Spectrum Frontiers Order*").

4 *See, e.g.*, CCA Letter at 2 (arguing that CCA members "should not be hamstrung by satellite operations to introduce mobile services"), 2 n.3 ("The Commission should also seek proof of concept regarding satellite providers' plans to provide mobile broadband to rural America"), 3 (challenging the "tenuous theory that satellite mobile services will address service gaps in rural America").

limited to deployment of individually-licensed earth stations only. Accordingly, satellite use of the band will involve operations only at discrete and identifiable locations, not ubiquitous deployment at customers' premises. This alone should allay much of the concern raised by CCA.

In order to discuss CCA's other assertions, it is necessary to understand the nature of the Local Multipoint Distribution Service ("LMDS") that is the object of CCA's concern in the 28 GHz band. There are 986 designated LMDS license areas. Only 412 – or approximately 42% – have active licenses, yet those licenses cover approximately 75% of the U.S. population.[5] Clearly, these licenses cover the more densely populated areas, with the remaining unissued 58% of LMDS licenses covering more rural areas with only 25% of the population.

LMDS licenses were originally issued in 1997 and 1998. Under the Commission's rules, each licensee must make a showing of "substantial service" in its license area during its initial ten-year license term and upon renewal.[6] The Commission established certain "safe harbors" that would satisfy the substantial service requirement. As CCA recognizes, to date, LMDS licensees have deployed primarily point-to-point links to provide backhaul services from one fixed point to another.[7] Such licensees must construct just one link for every 250,000 people in their licensed service areas at the ten-year renewal mark in order to comply with the rule.[8] Nonetheless, a majority of LMDS licensees sought a substantial extension of this build-out requirement, and were granted up to four additional years (to June 1, 2012) to make their first showing of substantial service.[9]

Such limited deployment of point-to-point links does not support CCA's assertion that "competitive carriers are already using this spectrum to bridge the digital divide throughout their rural and regional service footprints."[10] Consider the three LMDS licensees cited by CCA: Pine Belt Communications ("Pine Belt"), Horry Telephone Cooperative ("HTC"), and the Central Texas Telephone Cooperative ("Central Texas"). Each of these companies acquired its licenses in the late 1990's, and was among the beneficiaries of the blanket extension of the build-out requirement. Each company filed a substantial service showing for its 28 GHz license based on

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5 *See Spectrum Frontiers Order* ¶ 19.

6 *See* 47 C.F.R. § 101.1011.

7 *See* CCA Letter at 2.

8 *See Rulemaking to Amend Parts 1, 2, 21, and 25 of the Commission's Rules to Redesignate the 27.5-29.5 GHz Frequency Band, to Reallocate the 29.5-30.0 GHz Frequency Band, to Establish Rules and Policies for the Local Multipoint Distribution Service and for Fixed Satellite Services*, 12 FCC Rcd. 12545, ¶ 270 (1997); *Commco Technology, L.L.C.*, 16 FCC Rcd. 19485, ¶ 8 (WTB 2001).

9 *See Applications Filed by Licensees in the Local Multipoint Distribution Service (LMDS) Seeking Waivers of Section 101.1011 of the Commission's Rules and Extensions of Time to Construct and Demonstrate Substantial Service*, 23 FCC Rcd. 5894 (WTB 2008).

10 CCA Letter at 1.

deployment of either one or two fixed links in its service area. The maps provided by Pine Belt and HTC in support of those showings are attached hereto,[11] and illustrate that spectrum in the vast majority of each area licensed to these operators remained fallow. Moreover, the 28 GHz links of all three operators discussed in the CCA Letter appear to be exactly the same links discussed in the substantial service showings they submitted in seeking license renewal several years ago.[12] Presumably, these links provide a valuable service to the handful of customers involved. But it simply is not credible to claim (as CCA does) that they are bridging the digital divide throughout these operators' licensed areas.

By contrast, satellite operators are currently using 28 GHz spectrum to support broadband services available directly to customers nationwide. Indeed, because satellites cover large areas, satellite operators have strong incentives to market to customers in all locations – and enjoy a competitive advantage in areas that are difficult for terrestrial alternatives to reach. Satellite broadband providers using the 28 GHz band today serve approximately two million households in North America, and the ongoing development and launch of even more advanced satellites promises to deliver more and better service to additional customers in the very near future.

The Satellite Broadband Companies agree with the Commission's conclusion that the propagation and other characteristics of the 28 GHz band offer inherent opportunities for spectrum sharing among services with different architectures and business plans.[13] Coordinating shared use of the band by fixed links and fixed earth stations is a relatively straightforward process – especially given the limited deployment of LMDS. The *Spectrum Frontiers Order* conferred "valuable new rights" on LMDS operators to use 28 GHz spectrum for mobile Upper Microwave Flexible Use Service ("UMFUS"),[14] which could make earth station site selection much more challenging. In order to preserve opportunities for satellite use of the band, the Commission wisely adopted rules through which earth stations could be deployed such that their links operate on a protected basis under restrictive conditions designed to ensure that such deployment would have a minimal impact on UMFUS systems.[15]

In their petitions for reconsideration, the Satellite Broadband Companies suggested slight revisions to refine that regime as necessary to achieve the Commission's goal of efficient

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[11] Central Texas provided a narrative description of its links to support its substantial service showing, but did not include a map.

[12] *Compare* CCA Letter at 3-4 (discussing customers served by point-to-point links) and ULS File Nos. 0005252831 and 0005318669 (Pine Belt links serving Dallas County Courthouse and two businesses in Demopolis, AL), 0005603232 (HTC links connecting three towers in Conway, SC), and 0005218933 (Central Texas links to Goldthwaite High School and Mills County Courthouse). CCA also discussed a Central Texas link serving the Mills County State Bank, but that is actually supported by an LMDS license in the 31 GHz band. *See* ULS File No. 0005194047.

[13] *See, e.g., Spectrum Frontiers Order* ¶ 47.

[14] *Id.* ¶ 36.

[15] *See* 47 C.F.R. § 25.136(a).

spectrum sharing. This involves defining the terms used in the rule and eliminating duplicative restrictions. It also includes a refinement of the population impact limitation designed to give satellite operators a bit more latitude in deploying earth stations, especially in rural areas where 28 GHz band spectrum is least likely to be used for high-capacity 5G services. CCA asserts that allowing satellite operations to affect up to 10% of the population in a rural county, which is the limit proposed for counties with fewer than 6,000 people, "would likely cover most of that county."[16] Such an assertion, however, appears to rely on an unsupported assumption that in every rural county, the majority of the population is concentrated in a very small geographic area of the county, with the remainder of the country only very lightly populated. Even assuming such a population distribution, the Satellite Broadband Companies question whether a terrestrial mobile operator would build out a 28 GHz system to serve such sparsely populated areas. CCA also ignores the fact that a typical 28 GHz earth station would potentially affect an area that is only a very small fraction of a county.

Accordingly, the Satellite Broadband Companies urge the Commission to adopt the proposals that they have made for reconsideration to provide additional flexibility to satellite broadband operators. Such an approach provides an appropriate balance in ensuring that existing and new UMFUS operators have access to the spectrum they need to provide new and innovative services, while also ensuring that consumers, no matter where they live in the United States, have access to broadband services through intensive use of valuable spectrum resources.

Respectfully submitted,

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[16] CCA Letter at 4.

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Attachments

cc: Rachel Bender
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Daudeline Meme
Nese Guendelsberger
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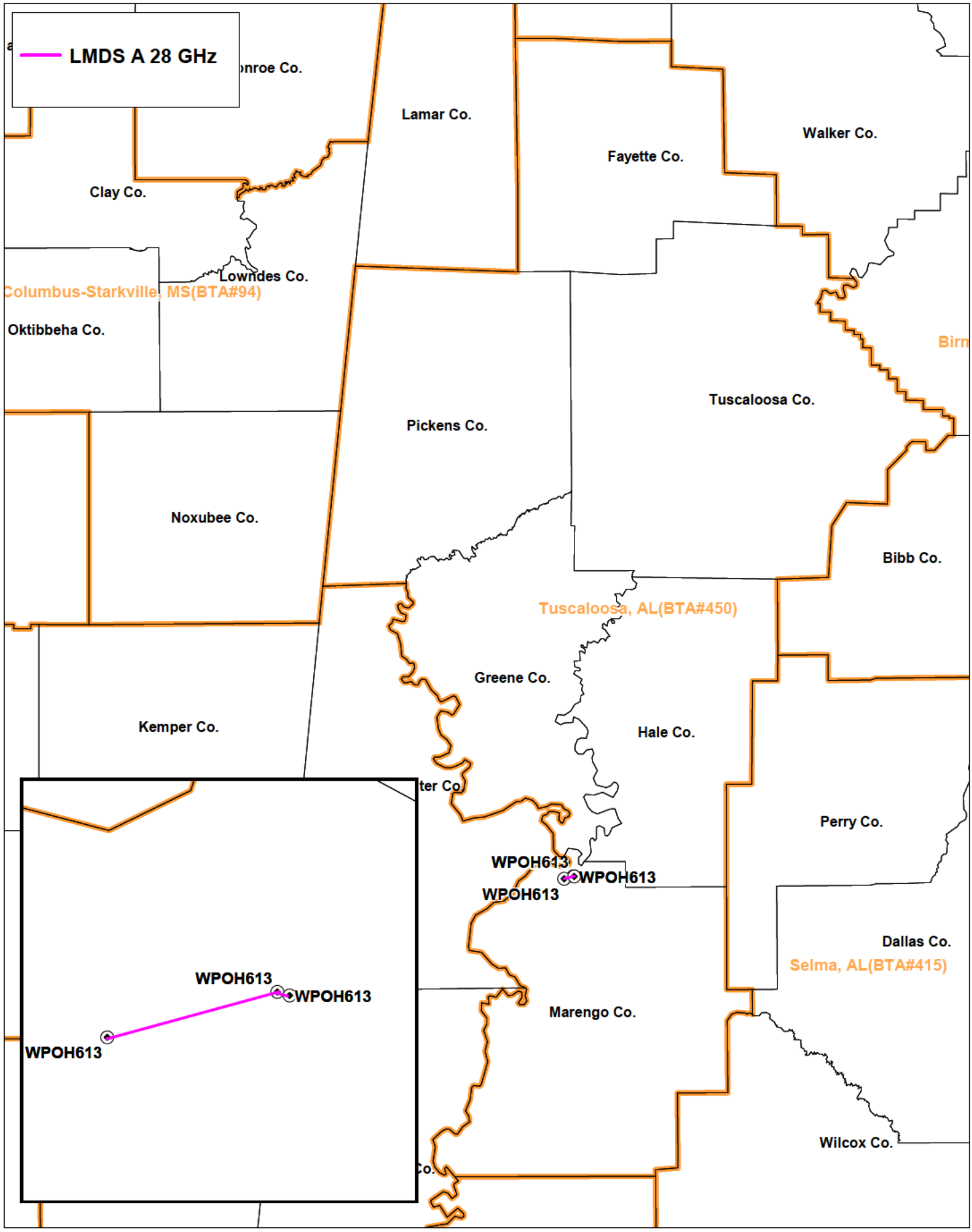
Michael Ha

BTA#450
2010 Population = 277,475



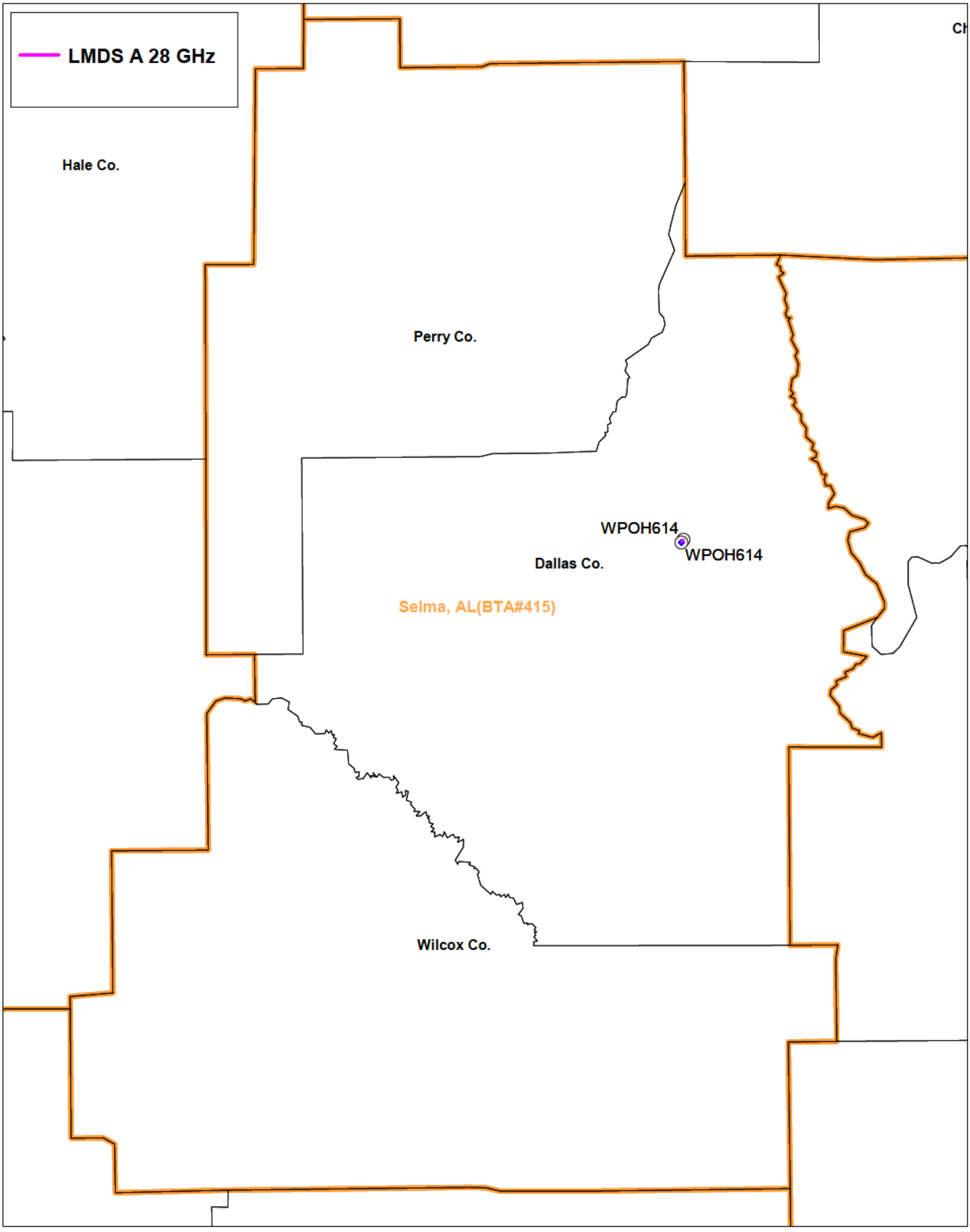
HERMAN & WHITEAKER, LLC
TELECOMMUNICATIONS + TECHNOLOGY

July 6, 2012

WPOH614

BTA#415
2010 Population = 66,081

Exhibit II



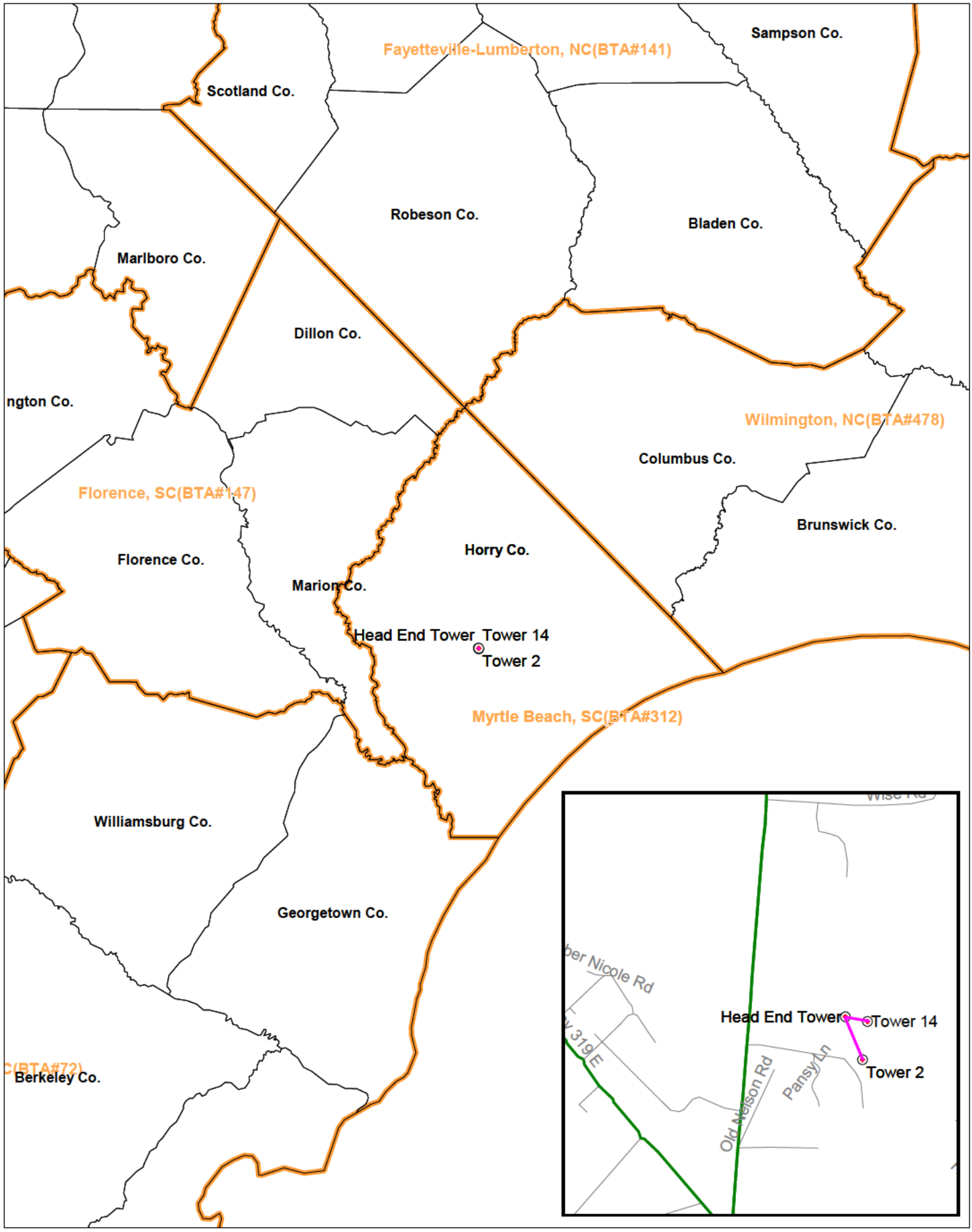
HERMAN & WHITEAKER, LLC
TELECOMMUNICATIONS + TECHNOLOGY

May 21, 2012

WPOH936, WPOH937, & WPOL288

BTA#312
2010 Population = 269,291

Exhibit II



HERMAN & WHITEAKER, LLC
TELECOMMUNICATIONS + TECHNOLOGY

January 11, 2013